Title: Communication Between and Within Multi-Processor Clusters of Multi-Cluster Computer Systems Docket No. NWISP042 Express Mail No. EV332825095US Page 1 of 18

Fig. 1A

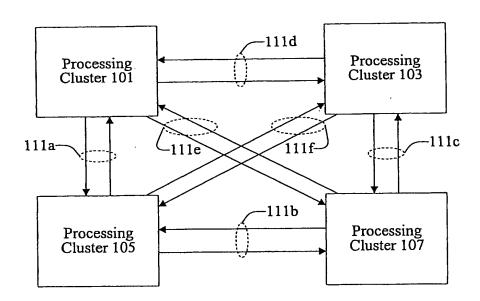
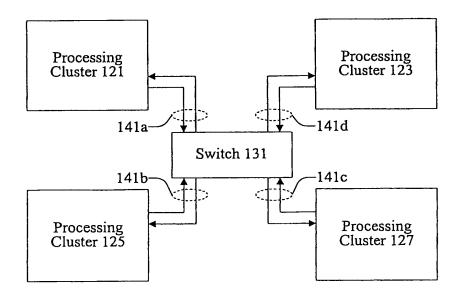
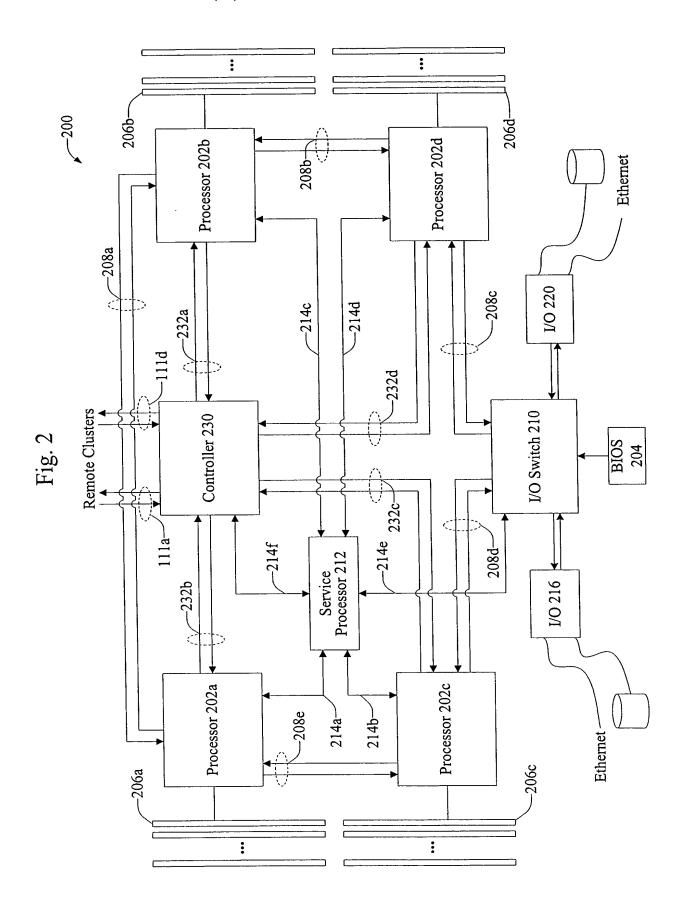


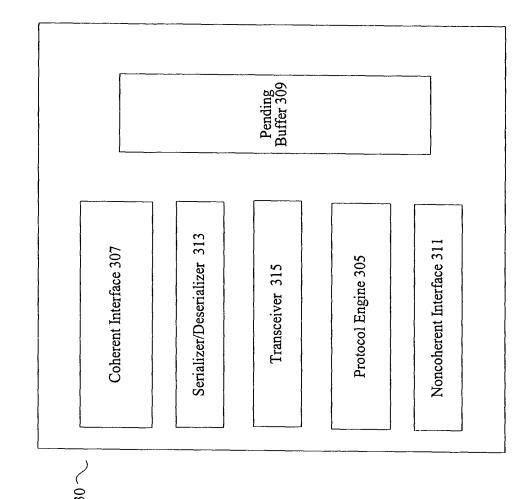
Fig. 1B



Processor Clusters of Multi-Cluster Computer Systems
Docket No. NWISP042
Express Mail No. EV332825095US
Page 2 of 18



Roger S. Sampson (510) 843-6200



118.3

Title: Communication Between and Within Multi-Processor Clusters of Multi-Cluster Computer Systems Docket No. NWISP042 Express Mail No. EV332825095US Page 4 of 18

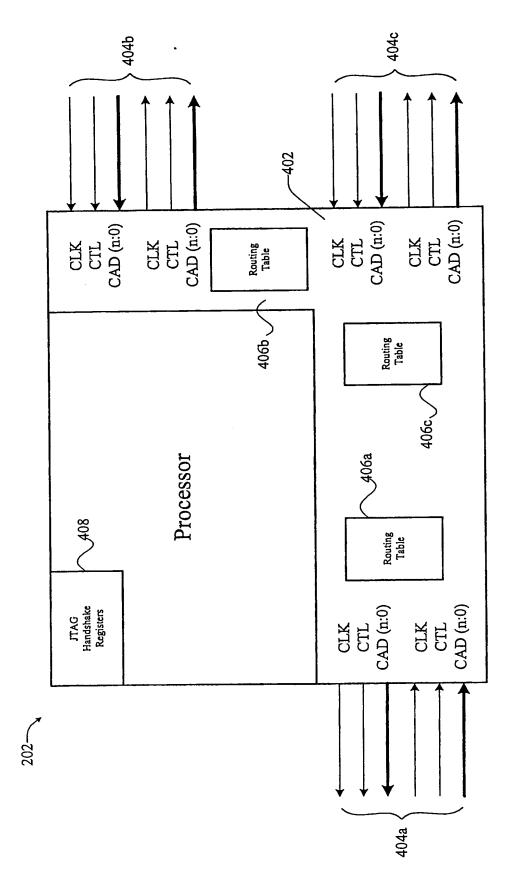


Fig. 4

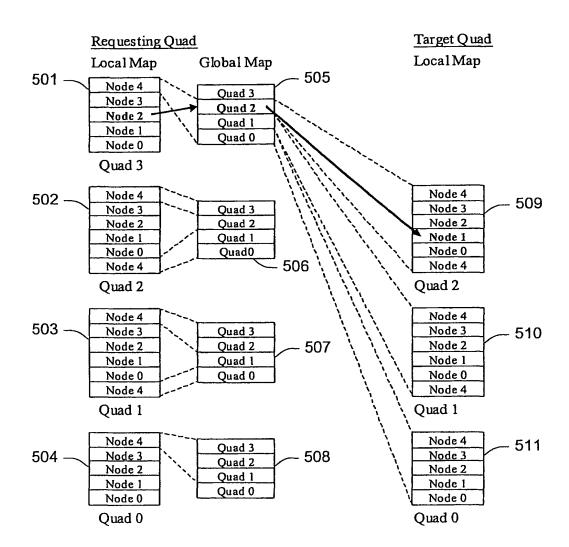
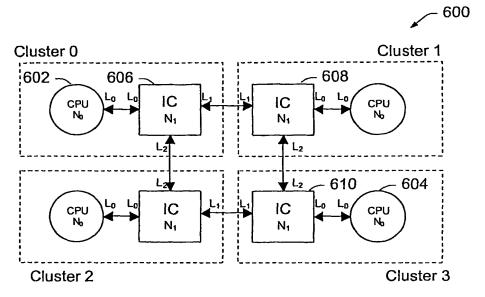


Fig. 5

Page 5 Sampage

Roger S. Sampson (510) 843-6200



L# - Link number N# - Node number

Fig. 6A

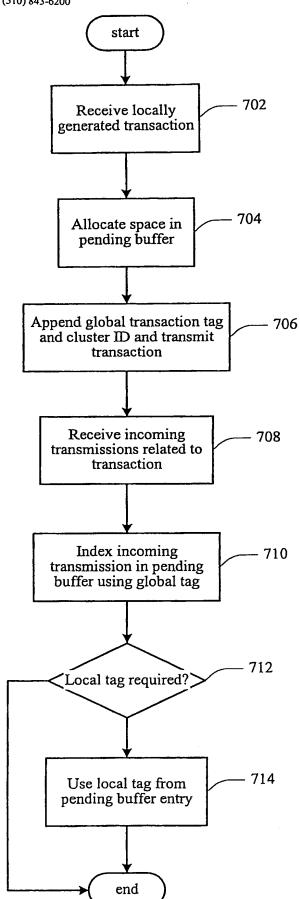
		Loca	l Table	Global Table			
		Des	t Node		Dest (	Cluster	
Sou	ırce	N <sub>0</sub>	N <sub>1</sub>	C <sub>0</sub>	Cı	C <sub>2</sub>	C <sub>3</sub>
Cluster 0	Node 0	Х	Lo	NA	NA	NA	NA
	Node 1	Lo	X	Х	Lı	L <sub>2</sub>	L
Cluster 1	Node 0	Х	Lo	NA	NA	NA	NA
	Node 1	Lo	X	Lı	X	L <sub>2</sub>	$L_2$
Cluster 2	Node 0	х	Lo	NA	NA	NA	NA
	Node 1	Lo	X	L <sub>2</sub>	L <sub>2</sub>	Х	L
Cluster 3	Node 0	Х	Lo	NA	NA	NA	NA
	Node 1	$L_0$	X	L <sub>2</sub>	L <sub>2</sub>	Li	Х

Fig. 6B

Processor Clusters of Multi-Cluster Computer Systems
Docket No. NWISP042
Express Mail No. EV332825095US
Page 7 of 18

Roger S. Sampson (510) 843-6200

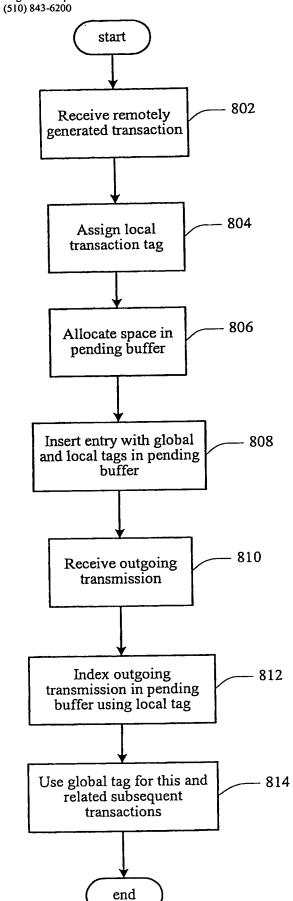
Fig. 7



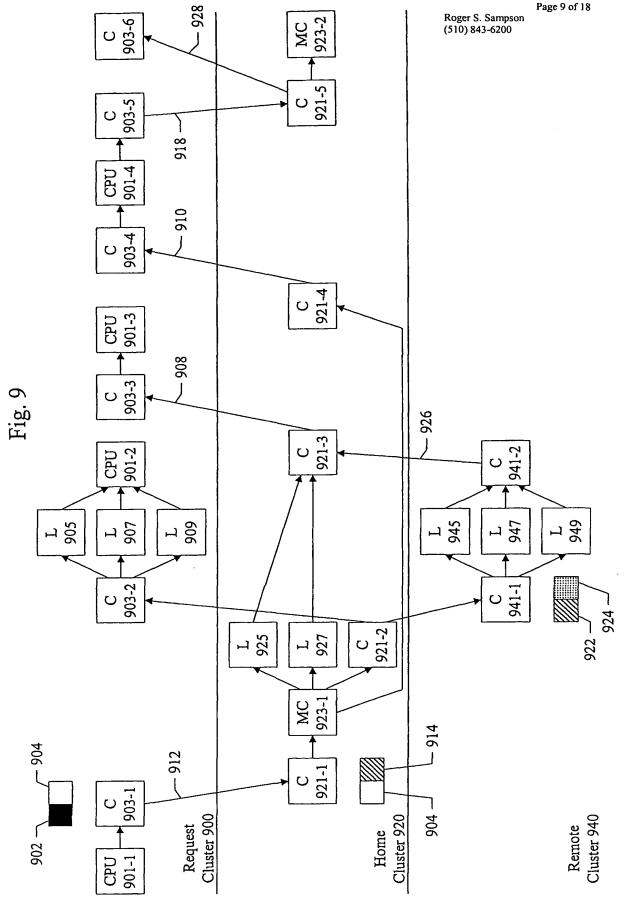
Processor Clusters of Multi-Cluster Computer Systems
Docket No. NWISP042
Express Mail No. EV332825095US
Page 8 of 18

Roger S. Sampson

Fig. 8



Title: Communication Between and Within Multi-Processor Clusters of Multi-Cluster Computer Systems Docket No. NWISP042 Express Mail No. EV332825095US Page 9 of 18



Title: Communication Between and Within Multi-Processor Clusters of Multi-Cluster Computer Systems Docket No. NWISP042 Express Mail No. EV332825095US Page 10 of 18

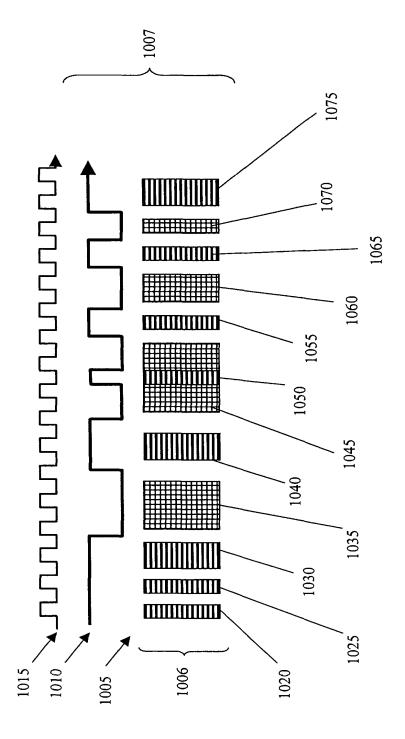


Fig. 10

Title: Communication Between and Within Multi-Processor Clusters of Multi-Cluster Computer Systems
Docket No. NWISP042
Express Mail No. EV332825095US
Page 11 of 18

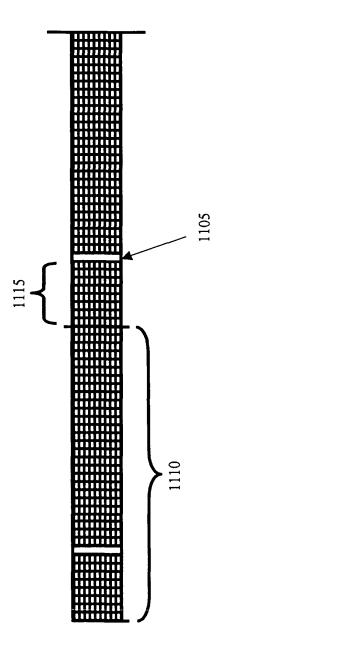
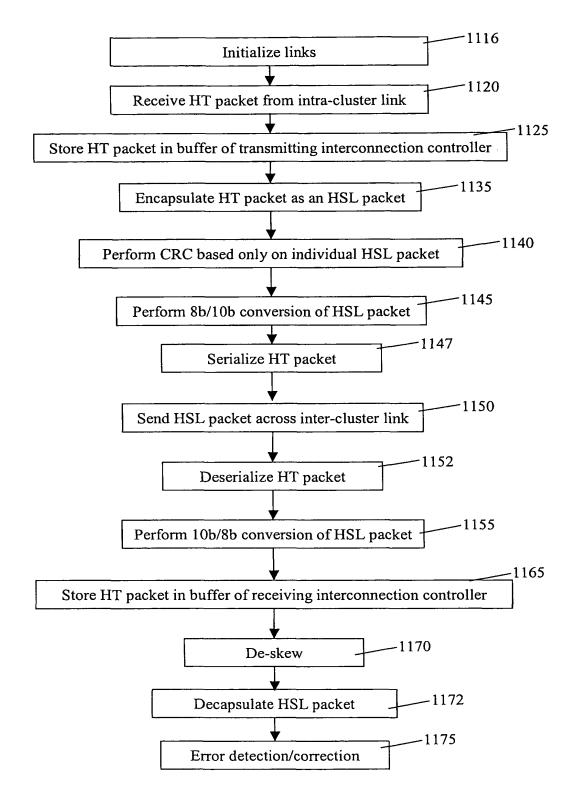


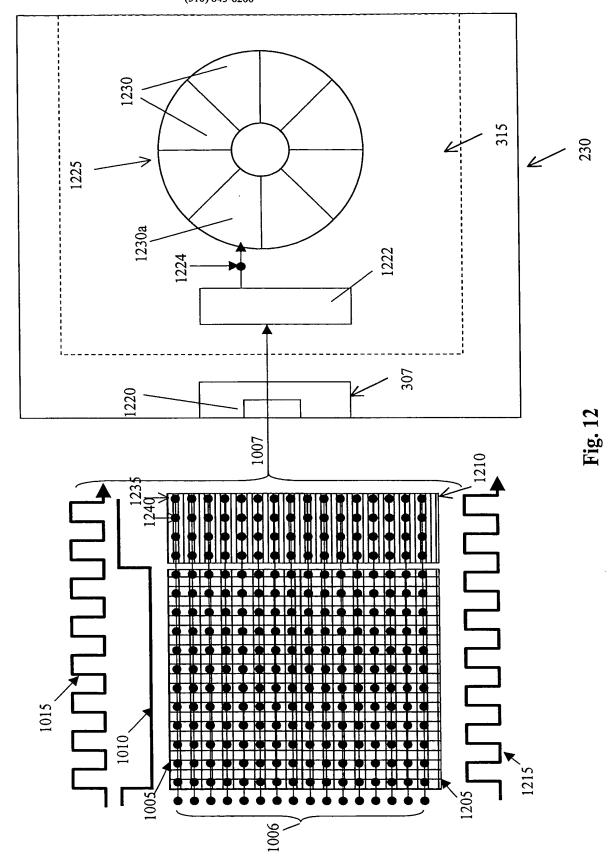
Fig. 11A

Title: Communication Between and Within Multi-Processor Clusters of Multi-Cluster Computer Systems Docket No. NWISP042 Express Mail No. EV332825095US Page 12 of 18



**Fig. 11B** 

Processor Clusters of Multi-Cluster Computer Systems
Docket No. NWISP042
Express Mail No. EV332825095US
Page 13 of 18



## Processor Clusters of Multi-Cluster Computer Systems Docket No. NWISP042

## Express Mail No. EV332825095US Page 14 of 18

32b	32 b	6b SegID	2b pr	12b Remote	12b CRC12
HT packet	ACK/NACK packet	SeqiD	FI	bits	CRC12

Fig 13A: Protocol Packet- 32b Control

32b (31:0) HT packet	32 b (63:32) HT packet	6b SeqID	2b PT	12b Remote bits	12b CRC12
-------------------------	---------------------------	-------------	----------	-----------------------	--------------

Fig 13B: Protocol Packet- 64b Control.

32b	32 b	6b	2b	8b	16b
Data	unused	SeqID	PT	Packet	CRC16
		1		length	

Fig. 13C: Data Packet- 32b.

[	32b (31:0)	32 b (63:32)	6b	2b	8b	16b
	Data	Data	SeqID	PT	Packet	CRC16
				1	length	

Fig. 13D: Data Packet- 64b.

32b (31:0) Data	32 b (63:32) Data	6b SeqID	2b PT	8b Packet length	16 b unused
32b (95:64)	32 b		16b		16b
Data	unused	υ	unused		CRC16

Fig 13E: Data Packet-96b.

32b (31:0) Data	32 b (63:32) Data	6b SeqID	2b PT	8b Packet length	16 b unused
32b (95:64)	32b (127:96)		16b		16b
Data	Data	ι	unused		CRC16

Fig 13F: Data Packet- 128b.

## Processor Clusters of Multi-Cluster Computer Systems Docket No. NWISP042

## Express Mail No. EV332825095US Page 15 of 18

32b (31:0)	32 b (63:32)	6b	2b	8b	16 b
Data	Data	SeqID	PT	Packet	unused
		_		length	
32b (95:64)	32b (127:96)	32 b (159:128)			
Data	Data		Data		
32 b	32 b		16b		16b
unused	unused	υ	unused		CRC16

Fig 13G: Data Packet- 160b.

32b (31:0)	32 b (63:32)	6b	2b	8b	16 b
Data	Data	SeqID   PT   Packet		Packet	unused
				length	
32b (95:64)	32b (127:96)	32 b (159:128)			28)
Data	Data	İ	Data		
32 b (191:160)	32 b		16 b		16b
Data	unused	unused		CRC16	

Fig 13H: Data Packet- 192b.

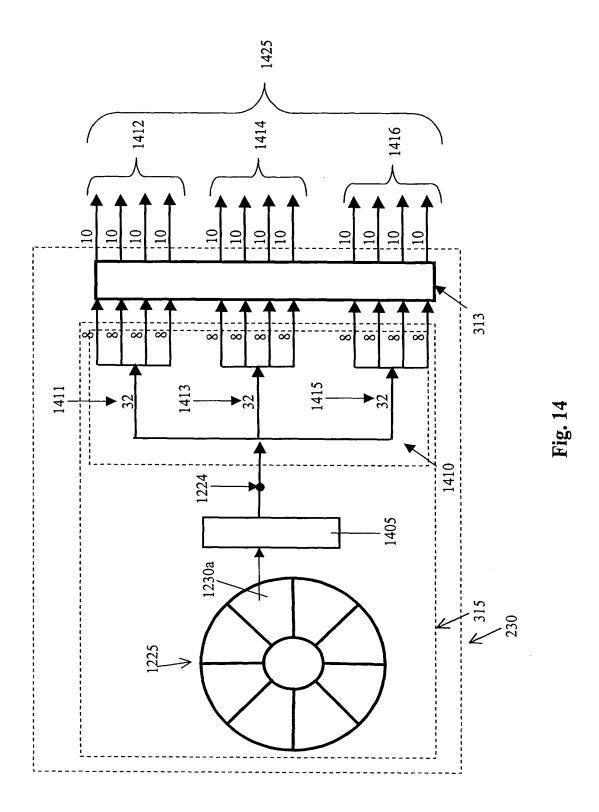
32b (31:0)	32 b (63:32)	6b	2b	8b	16 b
Data	Data	SeqID PT Packet		unused	
			<u> </u>	length	
32b (95:64)	32b (127:96)	32 b (159:128)			28)
Data	Data	1		Data	
32b (191:160)	32b (223:192)	32 b (255:224			24)
Data	Data	Data			
32b (303:272)	32b (335:304)	32 b (367:336)			36)
Data	Data			Data	
32b (383:368)	32b (415:384)		32	b (447:4)	16)
Data	Data			Data	
32b (479:448)	32b (511:480)		16 b		16b
Data	Data	unused		CRC16	

Fig 13I: Data Packet- 512b.

Command	8b Rsv	8b Rsv	1b Rsv	SeqID	1b	
			1		Valid	

Fig 13J: ACK/NACK Packet Format.

Processor Clusters of Multi-Cluster Computer Systems
Docket No. NWISP042
Express Mail No. EV332825095US
Page 16 of 18
Roger S. Sampson



Pages S. Samanas

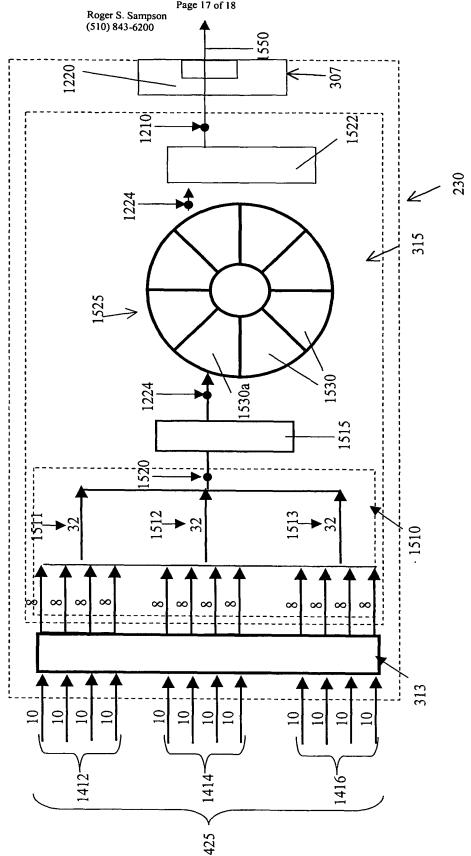


Fig. 15

Processor Clusters of Multi-Cluster Computer Systems
Docket No. NWISP042
Express Mail No. EV332825095US
Page 18 of 18
Roger S. Sampson

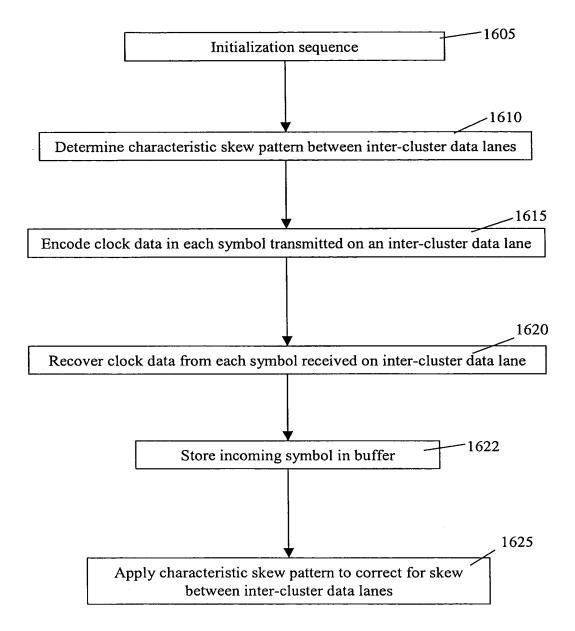


Fig. 16